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**Descriptions of North American NOCTUIDAE.—No. 3.**

BY AUG. R. GROTE.

**HARRISIMEMNA, n. g.****Harrisimemna sexguttata.**

*Thyatira? sexguttata*, Harris (in letters to Doubleday) Correspondence, pp. 174, 245.

*Grammophora trisignata*, Walker.

The characters drawn from the young of this species discovered by Harris, in his correspondence with Doubleday and Miss Morris, are very peculiar. The larva seems to mimic that of the Diurnal Basilarchia. I have observed it on Staten Island; Mrs. Bridgham has reared the species at Seekonk, Rhode Island. The perfect insect is allied to, but generically distinct from *Moma Hübn.* It cannot be referred to *Thyatira* or to the *Cymatophorini*, from the course of the costal nerve of the hind wings. It differs throughout from *Polygrammate Hübn.* (*Grammophora*, Guenée), to which Mr. Walker refers it under a specific name which I the more readily discard since it is preoccupied in this family for a species of *Hadena*.

An unusual feature in the imago is offered by the disproportionately large brown tuft on the dorsum of the 4th abdominal segment. It would be interesting to compare the location of the body tufts in the larva and the perfect insect. Another feature in *Harrisimemna* is the embossed clypeus which doubtless facilitates the escape of the moth from the chrysalis.

**CHARADRA, Walker.**

***Charadra propinquinella*, Grote.**—♀.—Size of *C. deridens* from which it differs at first sight by the propinquity and subparallelism of the median lines, which are not joined at the centre of the wing as in our usual species. Whitish or bluish grey. Median lines distinct, propinquitous, subparallel, excavate. T. a. line twice outwardly produced opposite the cell, and once inwardly on internal nervure. Orbicular round, evident, filled with whitish, with a central dark dot. Reniform contiguous to t. p. line, incompletely ringed with a central dot. Median shade apparent above and below orbicular, where it runs approximate to t. a. line. Subterminal space very wide; s. t. line apparent at costa, afterwards faint, scalloped. The whitish frosting of the wing becomes lost externally. An interrupted terminal line

formed by interspaceal white and following blackish dots. Secondaries smoky, dark along external margin. Head and thorax whitish. Tegulae with black marks. Beneath the legs and thorax are clothed with whitish hair. The wings show double faint shaded darker transverse bands. *Expanse* 40 m. m. *Length of body* 15 m. m.

*Habitat*.—Rhode Island.

### ARZAMA, Walker.

**Arzama vulnifica**, *Grote*.—♂ ♀.—Differs at once from *A. densa* and *A. obliquata* by its dusky yellow color. The antennal pectinations are notably shorter in both sexes, especially when compared with our Eastern *obliquata*. The style of ornamentation is similar. On the entirely obscure yellow ground color of the wings the transverse lines are more distinct than usual, obscure ferruginous. About the large oblique reniform is a dull leaden stain accompanying the angulated median shade. T. p. line narrowly and evenly lunulated. Terminal space irregularly stained without the s. t. line. Secondaries of a uniform dull red or warm brown tint. Thorax concolorous with the fore wings. Beneath the yellowish wings show a reddish tinge and are crossed by faint reddish transverse common lines and have shaded discal dots. *Expanse* 38 to 40 m. m.

*Habitat*.—Pennsylvania.

Less robust than *A. obliquata* and with the anterior wings more rounded posteriorly.

### HELIOTHIS, Ochsen.

**Heliothis proruptions**, *Grote*.—♂ ♀.—Belongs to the section of the genus which may retain Hübner's term *Melicleptra*, and which includes *H. villosus*. The female has a salient oviduct. Blackish with rusty hairs about the thorax. Over both wings stretches the yellowish-white median space as a wide band margined on the primaries distinctly by the usual median lines; the t. p. outwardly projected opposite the cell. Fringes on the secondaries white, on the primaries dusky. A faint discal spot and faint diffuse stained median shade on primaries. Beneath as above the median spaces are nearly white and the discal spot is black and extends to costa. *Expanse* 24 m. m.

Specimens were brought by Lord Walsingham from California and are now in the collection of this Society.

### XANTHOPTERA, Guenée.

**Xanthoptera coccinifascia**, *Grote*.—♂.—Anterior wings bright straw-yellow. From the middle of the costa an intensely bright rose-red marginal band runs to the base of the wing and is continued over the prothorax. The head and appendages are rose-red. An oblique rather broad and somewhat irregularly margined shining rose-red band runs inwardly from costa to internal margin, originating about midway between the extremity of the costal marginal band and the tip of the wing. There is a minute cellular dot on the inner edge of this transverse band. The rose-red fringes appear as an even terminal continued band. Thorax concolorous with fore wings. Hind wings

pale, dusted outwardly with darker and obsoletely rosy scales; fringes very pale. Beneath pale; the primaries almost entirely covered with dark ferruginous scales which are more diffusely scattered over the hind wings. *Expanse* 18 m. m.

My types are from Texas; I believe, however, that I have seen specimens from Pennsylvania and the Middle States. I regret not to be able to identify both sexes of this pretty species.

**Xanthoptera rosalba**, *Grote*.—♂ ♀.—Obscure yellow. Anterior wings with the costal stripe of *X. coccinifascia*, but its color is pale rose and is not so brilliant. As in that species the stripe extends over the prothorax, and the head and appendages are of the same hue. An oblique but broader transverse pale rosy band extends across the wing as in the preceding species; it is narrowly succeeded by the ground color of the wing, and then there is a second similar stripe taking the place of the usual subterminal line; behind this the wing is again obscure yellow to the pink fringes tipped with white, but the colors are not contrasted, and the whole terminal portion of the wing beyond the first oblique transverse band appears diffusely washed with pink. Hind wings dark, narrowly and evenly pink along the terminal margin and within anal angle; fringes tipped with white. Beneath dusted with pink scales on a discolorous ground. Thorax concolorous with fore wings above. *Expanse* 22 m. m.

*Habitat*.—Pennsylvania; Massachusetts.

In case of the disintegration of *M. Guenée*'s genus, I propose that the generic term be restricted to *Xanthoptera nigrofimbria*, *Guenée*, from the Atlantic District as the type. It will then, I think, naturally include the foregoing species.

**Xanthoptera fax**, *Grote*.

A small species with hairy thorax and allied to *X. semiflava* *Guenée*, which Prof. Glover has found in Florida, feeding on *Scarracenia* as figured by Abbot. Both *X. semiflava* and *X. semicrocea* have been received from Georgia from Mr. Ridings, and the latter from Texas, collected by Mr. Belfrage. The present little species has the head and thorax very bright orange-yellow, contrasting with the other parts in color. Both wings and abdomen are deep brownish-black above and below, without markings, almost dead black. On the primaries, however, over the basal two-thirds, may be detected a sprinkling of orange-red scales which do not contrast very strongly nor take on any defined shape, though massed in patches, more obviously twice on the cell. The fringes are concolorous with the wings, but are *tipped shortly with orange-red*.

This little species, only in two specimens before me, was brought by

Mr. Ridings from Georgia. It may be found to vary, as neither of its allies are constant, but its characters are so simple that I should think its identification would be always ready. It expands only 12 m. m.

### **ERASTRIA, Treits.**

***Erastria mitographa*, Grote.**—♂ ♀.—Grey with obscure olivaceous shades, finely sprinkled with black scales. Head and collar discolorous, obscure yellowish. Thorax grey. Fore wings with two distinct median lines very even. T. a. line deep bright olivaceous, with a pale following inner shade, broken by an inward angulation on the cell below costa, thence evenly inwardly oblique to internal margin. Reniform ill-defined, medially constricted, pale, with dark superposed included dots. Behind the reniform, the median space is shaded with obscure olivaceous. T. p. line resembling the t. a. line in color, succeeded by a coincident pale shade, outwardly acutely angulate on the subcostal nervures, thence evenly inwardly oblique to internal margin. These two median lines are parallel inferiorly, tolerably approximate, narrowing the median space. Subterminal shaded line vague, following the shape of external margin. Terminal space darker shaded outwardly. Faint ante-apical costal pale marks. Terminal line pale, very fine and continuous. Fringes dark at base, pale exteriorly. Terminally the wing shows the same bright stain that characterizes the deep olivaceous median lines. Hind wings obscure greyish without perceptible markings. Beneath the fore wings are washed with blackish from the base outwardly over the middle; hind wings pale, both pair tinted with obscure yellowish or ochreous, with double shaded common lines and pale fringes. Abdomen untufted above. *Expanse* 21 to 22 m. m.

*Habitat*.—Central Alabama, in August.

The prominent median lines are very distinctive. With the following similarly sized with *E. muscosa*.

***Erastria malaca*, Grote.**—♂ ♀.—Slight-bodied, the labial palpi a little longer than in *E. mitographa*. Pale with a purplish reflection, with ochrey-brown shades and diffuse ornamentation. Head and appendages and collar discolorous, obscure yellowish or ochreous. Fore wings acute at apices; external margin somewhat sinuate, well produced medially. Fore wings pale from base to median shade; t. a. line diffuse, a little irregular, broadly marked on costa. Between the median shade and the t. p. line the median space is filled in with ochrey brown obscuring the reniform spot; this latter darker ringed with a brighter centre. T. p. line tolerably distinct and linear, followed by a coincident pale shade. It is even, roundedly projected opposite the disc, subsinuate. Ante-apical pale costal dots. Terminally the wing is diffusely washed with brown. A pale oblique apical shade, below which the vague undulate diffuse dark subterminal line is visible. Terminal line very fine and dark, continuous; fringes dark. Hind wings as in *E. mitographa*, without markings; fringes pale. Beneath with ochreous tint, primaries blackish over the disc, with discal dots and faint common lines. Abdomen untufted above.

Labial palpi somewhat projected, compressedly scaled, third article continuous. *Expanse* 20 to 22 m. m.

*Habitat*.—Pennsylvania (Philadelphia).

I am not certain of the generic position of these two species; they have the outline of the genus and the size, but the abdomen is bare of dorsal tufts. The rather longer, compressedly and more lengthily scaled, squarely terminated palpi of *E. malaca*, are distinctive.

The following is a list of the North American species of *Erastria* hitherto described, all of which are known to me in nature, and represented in the collection of the American Entomological Society:

#### ERASTRIA, Treits.

*nigritula*, Guenée.

*Miana undulifera*, Walk.

*carneola*, Guenée.

*synochitis*, G. & R.

*muscosula*, Guenée.

*musta*, G. & R.

*albidula*, Guenée.

*mitographa*, Grote.

*malaca*, Grote.

In the British Museum Lists two species referred to *Erastria* are described under the specific names of *rubicunda* and *inscripta*. The first of these species belongs to the genus *Callopietria*, and I believe was previously described by Guenée under *Eriopus*. The second is a re-description of Herrich-Schaeffer's *Bryophila teratophora*.

#### MARASMALUS, Grote.

*Marasmalus histrio*, Grote.—♂ ♀.

Eleven specimens from Texas and New York belong, undoubtedly, to a second species of this noticeable genus. It is perhaps a little smaller than *M. ventilator*. The general color is very different, being darker and of slaty grey. The usually confused and imperfect markings of the primaries can with difficulty be compared; from the darker color they are less obvious than in *M. ventilator*. A ferruginous patch appears subcostally margining inwardly the inception of the subterminal line, where, as in *M. ventilator*, it extends downwardly opposite the reniform spot. This latter is expressed in *M. histrio* by a single black dot. Base of the wing shaded with ferruginous inside the arcuate geminate t. a. line. The hind wings are very dark and want the ferruginous patch on the external margin, while beneath there is no similar patch on the fore wings subcostally before the apices as in *M. ventilator*. The whole insect wants the more lively variegated appearance of *M. ventilator*. A notable difference is at once apparent in the

antennae, which are very shortly pectinated in the male *M. histrio* and simple in the female; whereas in *M. ventilator*, of which I believe I have both sexes before me, the pectinations are twice as long in the male as in the new species, while in the female *M. ventilator* they seem very little shorter than in the opposite sex. I have omitted giving the expanse of the male specimen of *M. ventilator* in my original description. It is 32 m. m. *M. histrio* expands in both sexes 25 m. m., while some of the specimens, which offer no other difference, are a trifle smaller.

### **PTERAETHOLIX, Grote.**

A very remarkable genus, characterized by a large pellucid impression near the base of the discal cell on the male primary wing, a feature wanting in the opposite sex. An analogous, though not corresponding, feature characterizes the genus *Heliocheilus*. The species is rather small, glistening, pyralidiform in appearance and seems to me related to *Anomis*.

The male primary wing shows a large naked impressed spot at the base of the discal cell; underneath, the edges, especially outwardly, are overlapped by the tegument. On neither surface are there any hair or scale tufts. The median vein is bent downwardly in a curve at base to make room for the impression, and thus widens here the discal cell. The median nervure is four branched; 2 from the middle of the nervure, thrown off just beyond the downward curve of the nervure; 3, 4 and 5 approximate at base; 4 nearer 5, the latter not independent but springing from the extremity of the nervure on a line with the origin of 4. Cell incompletely closed by a fold. A small subcostal accessory cell from the lower angle of which 6 is thrown off on to the margin; 7 and 8 arise together from the outer angle of the cell; 9 out of 8 to apex; 10, 11, 12 are aggregated. Hind wings with two internal veins (1 and 1a). Median vein three branched; 3 and 4 emanating from one point; 5 entirely independent; cell open; 6 and 7 arising together on a line with or opposite 2.

This neururation approaches the pyralidous type, but it does not agree. The accessory cell and the origin of nervule 6 on the primaries, the position of 5 and the presence of but two internal nervules on the secondaries are distinguishing points. The sexual pellucid impression on the primaries differs essentially from that offered by the pyralid

genera *Cnaphalocrocis* or *Crocidophora*. Our insect is undoubtedly a Noctuid.

The female primary entirely wants the characteristic pellucid spot of the male.

The wings are in either sex closely scaled, entire, while the character of the subobsolete ornamentation is Noctuidous. The primaries have straight costal edge, slightly rounded at base in the male, somewhat produced apices and very slightly sinuate external margin; hind wings full and rounded.

Antennae simple in either sex, fine and reaching to apical third. Palpi moderate, porrect, free from the front which they do not exceed, shortly scaled. Legs proportioned, slender, rather closely scaled; hind tibiae with two pairs of terminal spurs. Abdomen linear, with minute tufts on the dorsum at base; in the male exceeding the secondaries with moderate genital tufts; in the female as long as the hind wings with a pointed termination.

***Pteraeothlix bullula*, Grote.**—♂ ♀.—Reddish-brown mixed with blackish scales. In appearance the primaries, though not so highly colored, remind us of *Perigea xanthoides*. The color is brighter in the male and in either sex more or less broken by the admixture of dark scales. The ordinary lines are hardly to be made out. In the best marked ♂ specimens they are indicated by blackish scales when the t. a. line may be detected below the discal impression, the t. p. line inwardly curved below the median nervure and the subterminal, a little irregular, issuing from, or rather margining inwardly at costa, a more or less evident apical white shade. A series of whitish costal dots usually distinct. The most prominent feature of the ornamentation of this species and one which unites both sexes is the prominent white or whitish reniform spot. In one ♂ specimen before me though, this spot is filled with dark scales, but this is evidently unusual, as in six others it is distinct and white. Secondaries dark with a median continued line edged outwardly with whitish; fringes on both wings pale or whitish. Beneath rather pale, finely irrorate; primaries with a blackish shade over the disc; secondaries with a minute black discal dot and a very narrow, finely undulate median black line. Head and thorax like primaries above. The female is darkest, less reddish and more obscurely ornamented. *Expanse* 19 to 22 m. m.

*Habitat*.—Central Alabama in September.

### **SPARGALOMA, Grote.**

Ocelli. Antennae shorter than usual, simple, in the male shortly ciliate. Head rather broad and impacted; front square with projecting frontal scales; clypeal surface somewhat medially depressed. Tongue moderate. Labial palpi about three times as long as the head, projected; 2d joint twice as long as the third, thickly scaled, pro-



jected obliquely forward; 3d joint prominent, porrected, closely scaled, held at nearly right angles with 2d. Legs moderate, middle tibiae with terminal, and hind tibiae with middle and terminal pairs of unequal, rather blunt and weak spurs. Wings ample; anterior pair straight along costal edge, with acute apices and medially exerted on external margin; hind wings full and rounded, a little medially exerted on external margin, with longer fringed and folded internal margin. Fore wings 12-veined; cell open, 3, 4 and 5 approximate at base, 5 not independent but joined to the nervure a little within (or nearer the base of the wing) the origin of 4, opposite the origin of 3. An accessory cell from the lower angulation of which 6 is thrown off on the external margin; 7 and 8 near together at base from outer extremity of discal cell, divaricating; 8 to apex, 9 out of 8 to costa, 10 out of upper margin of accessory cell near 8, 11 out of nervure at basal third. Hind wings 8-veined, 3 and 4 together; 5 removed, not independent, arising from a weak cross vein joining the nervure; cell open, 6 and 7 divaricate from one point opposite 5.

In the body parts and subangular wings with resemblances to *Pan-grapta*, this is one of the genera lower than *Drasteria*, preparing us for the deltoidous type of the family. The ornamentation is continuous on the upper surface of both wings in darker lines and shades. The first species is the type of the genus. The abdomen does not exceed the anal angle of hind wings.

***Spargaloma sexpunctata*, Grote.**—♂ ♀.—Dark violet-grey with smoky-brown lines and shades. At base the fore wings have double irregular perpendicular transverse brown lines, not defined nor contrasting with the even violet-grey ground color which extends unbroken to the middle of the median space, there margined evenly obliquely by a dense smoky-brown shade which fills the median space outwardly, beyond the m. shade, and obscures the reniform spot. Orbicular a minute dot on the cell not always perceivable. Transverse posterior line dentate and irregular, inconspicuous. Subterminal line distinctive, geminate, with whitish included shade; the component lines divaricate at costa and enclosing a subtriangular brown shade, margined by whitish scales at costa, and on the interspaces below this are three small subtriangular coal-black spots or marks, very evident, resting on the inner component line of the subterminal, while a very few black scales appear opposite each mark beyond the line. Externally the ground color of the wing is a little paler than basally and a fine broken terminal line (continued on the secondaries) is interspaceally evident. The concolorous hind wings are mostly smoky-brown from the base to the continued subterminal geminate line with its included pale shade, beyond this the terminal space is concolorous with that of the primaries. The transverse posterior line and the inner marginal

line of the median shade of the primaries are more faintly continuous over the hind wings. Beneath both wings are pale ochrey-grey, with triple exterior faint and denticulate transverse lines and with the internal margins very pale. Body parts above concolorous with the violet-grey of the wings. *Expanse* 26—27 m. m.

*Habitat*.—Pennsylvania.

Easily recognized by the three black marks on the subterminal line of primaries, reminding us somewhat of *Drasteria*.

***Spargaloma umbrifascia*, Grote.**—♂ ♀.—Pale brownish or smoky testaceous grey, dust color; lines dark. T. a. line somewhat oblique even, outwardly exerted. The median space shows a broad blackish shade contiguous to the t. p. line, discontinued within the line superiorly. Discal dots minute. Outside of the t. p. line a fainter brownish (in one specimen, Texas, somewhat plumbeous) shade runs from costa before apex to internal margin, meeting t. p. line opposite the cell where the first inner black shade is discontinued. Subterminal line, from apex to just within internal angle, dentate with pale preceding shade. A fine blackish terminal line equally or more distinctly continued on hind wings. Hind wings paler from the base to the double distinct minutely dentate divaricate subterminal line with an interior and preceding pale shade. Three lines cross the middle field of the wing of which the central line is most distinct, the inner line includes a discal mark. Beneath with an ochrey cast; the ornamentation of upper surface incompletely reproduced. Above the primaries show a series of anteapical costal pale points and the transverse lines are incepted from dark dots. *Expanse* 22 to 25 m. m.

*Habitat*.—Philadelphia; Texas (Belfrage leg. 24th March).

The Texas specimen is smallest and best marked.

### **CLEPTOMITA, Grote,**

The male antennae are ciliate, thickening a little toward and bent at basal third. Head rather large; clypeal surface prominent. Labial palpi twice the height of the front, free, porrected, bent over, sickle-shaped, closely scaled, 3d joint half as long as second with which it is continuous. Fore legs rather short; fore tibiae relatively stout, tarsi slender, femora fringed with long testaceous hair. Hind tibiae with a disproportionately long middle spur and shorter unequal terminal spurs. Size small; wings like *Zanclognatha* in shape; primaries with nearly parallel costal and internal margins; hind margin nearly straight. The ornamentation is like that of *Zanclognatha*, but the lines are black, broad and contrasting. I have only one specimen which I cannot examine neurationally, but it is useless to refer it to *Herminia* of Authors, a genus that must be resolved into many.

***Cleptomita atrilineella*, Grote.**—♂.—Pale testaceous brownish. Primaries crossed by three black broad distinct lines. The transverse anterior

even, perpendicular, broad. The transverse posterior narrow superiorly, exerted slightly beyond the disc where it is slightly medially notched, more broadly marked below the s. m. nervure, even. Subterminal line very broadly black, the s. t. space deepening in color to the line, followed by a very pale shade (as are the first two lines), even, a little inwardly arcuate, arising on costa before apex and reaching internal margin within the angle. Terminally the wing is darker, more brownish. Hind wings a little paler, crossed by two ill-defined darker shade bands. On primaries a relatively large rounded black discal spot in the place of the reniform. Beneath pale with double common lines, the subterminal marked towards costa on both wings, and discal dots. Body parts rather pale. *Expanse*: 22 mil. *Length of body* 10 m. m.

*Habitat*.—Texas (Belfrage leg. 27th April).

### **PHALAENOSTOLA, Grote.**

A geometriform genus with long ample wings and linear slight body parts, very long labial palpi, frail in appearance. Primaries twice as long as wide, depressed towards the apices, 12-veined; cell open; 2 out of s. m. nervure at about outer third; 3, 4, 5 near together, 3 about twice further from 4 than 4 from 5, the latter not independent; a narrow accessory cell from the lower angle of which 6 is thrown off to external margin; 7, 8, 9 near together at base from outer end of accessory cell; 8 from apex of cell to costa just before the real tip; 9 out of 8 to costa a rather long furcation; costal nervules somewhat depressed, hind wings 8-veined; 5 removed at base from 3 and 4 (which are thrown off together) but not independent, joined to the nervure by a weak cross-vein. Head very small, ocelli apparently wanting. Antennae rather short, in the male serrate or shortly pectinate, ciliate, slightly swelled at the base, the serratures diminishing towards base and tips; in the female simple. Eyes large. Labial palpi long, directed obliquely forwards, divaricate, loosely scaled, third joint perhaps a little less than half the length of second. Legs slight, closely scaled, hind tibiae with double pairs of spurs. The ornamentation is not unlike *Philometra*, geometer-like; the wings are diffusely shaded and show the usual narrow transverse lines. The abdomen is linear, fully as long as the anal angle of secondaries, not broader than the narrow, short thorax, untufted; slender, long and pointed in the male, a little shorter and heavier in the female.

***Phalaenostola larentioides*, Grote.**—♂ ♀.—Dark smoky-brown, in fresh specimens with a faint olivaceous tinge and light purplish reflection. The wings have a broad mesial deeper shade on the median space obscuring the annulate reniform and a similar deep shade precedes the irregular subterminal line. T. a. and t. p. lines dark and narrow, a little irregular, the t. p.

line a little exerted opposite the cell, subsinuate. Subterminal line with a central atomical whitish line, a little irregular, well marked on costa, twice slightly outwardly roundedly exerted on s. c. nervules and on s. m. nervules. Secondaries like primaries; two lines cross the wings continuous with the t. p. and subterminal lines of primaries and like these in appearance. The same dark shade precedes the subterminal; within the inner line is a faint discal streak. Beneath the wings are more distinctly lined. Two exterior common lines cross the wings; the outer whitish, on the primaries even, apparently minutely lunulated, on the secondaries prominently outwardly acutely projected opposite the cell; the inner dark and very approximate to the concolorous discal marks, especially on the fore wings. Body concolorous. Legs dark; tarsi pale, somewhat ochrey. *Expanse* 20—22 m. m.

*Habitat*.—New York (Hastings, June 20th); Pennsylvania. Eighteen specimens examined.

**Phalaenostola citima**, *Grote*.—♂.—A single specimen indicates a distinct species. Larger and of a paler brighter brown. Ornamentation of *P. larentioides*, but the t. p. line is more irregular and proportionally nearer the subterminal. Median shade more diffuse, but the similar shade before the subterminal in its congener is here reduced to a narrow limit, and appears most prominent within the inflections of the line. The secondaries are more uniformly dark and the pale edging of the subterminal line toward anal angle more conspicuous. Beneath the two common lines are notably more propinquitous than in *P. larentioides*. On the primaries the faint discal dot is smaller and much removed from the line, whereas in its congener the broader discal mark is nearly absorbed by the line, which latter is more bent and narrower in *P. citima*. The outer line on the hind wings is not projected and on both wings less pale and continuous than in *P. larentioides*. *Expanse* 25 m. m.

*Habitat*.—Virginia.

### **RENIA**, *Guenée*.

It will be easy to distinguish *R. restrictalis* from *R. larvalis*, with which it agrees in ornamentation and general hue, if we observe the greatly shorter and recurved labial palpi of the female. In *R. larvalis* the female labial palpi are extended forwards and are as long as in *R. brevirostralis* ♀. The ♀ antennus is shorter from the base to the tuft in *R. restrictalis* than in *R. larvalis*: the form is narrower, the general color darker and more glossy. It will be impossible to use the labial palpi for generic characters in *Renia*, owing to their variable length and position in nearly allied species. It is different with the antennae; all the species have that peculiar erect tuft in the male at about apical third, beyond which the slender tips are curled; from the base to the tuft the male antennus is notably rigid. I have elsewhere separated the species into two groups from the character of the trans-

verse posterior line. It is irregular, single, wavy and more are less indistinct in the first seven species I have hitherto described; two of which are referred by me with some hesitation to the genus, but I hesitate merely because I do not know the males. In the second group the transverse posterior line is double or has a succeeding pale shade; it is even, distinct and roundedly bent much as is usual in the family. I find, however, that I have been wrong in assigning *two* species to this group. As yet it only contains a single one which must retain the name of *Renia Belfragei*, since the differences on which I founded a description of *R. pastoralis*, are caused by the faded condition of the specimens. The description under the latter name must be erased, although it stands first, because it does not apply to specimens of the species in perfect condition. I have specimens of *R. Belfragei* before me from Pennsylvania and Texas, and have taken the species myself in Alabama.

#### **PHALAENOPHANA, Grote.**

A geometriform genus, slight bodied, with frail ample wings and long recurved labial palpi. Anterior wings straight along costa, tips depressed, with full external margin; 12-veined; no accessory cell; 3, 4, 5, approximate and nearly equidistant at base, 5 attached; cell open; 8 to costa just before tip; 9 out of 8 to costa; 10 out of 8 to costa midway between the origin of 7 (thrown off below) and 9 (thrown off above); 6 thrown off below a little within 7. Hind wings rounded 8 veined; 5 weak nearly independent, thrown off from a weak cross vein much within the origin of 3 and 4 which spring together from the extremity of the nervure; cell open. Antennæ short, simple in the female, the joints provided with very fine bristles in the male. Labial palpi thrown arcuately backwards above the head, free, nearly attaining the thorax; basal joints porrected, ascending; third joint reflexed; in the male more thickly scaled. I do not detect ocelli. Eyes rather large; head somewhat restricted behind. Maxillæ rather short and weak. Thorax narrow; abdomen linear, not tufted, as long as internal margin of hind wings. Legs closely scaled; male fore legs shorter, fore tibiae a little thickened and outwardly thickly scaled; middle tibiae with terminal and hind tibiae with two pair of spurs. In ornamentation the insect resembles the Geometridæ quite strongly.

**Phalaenophana rurigena**, Grote.—♂ ♀,—Fresh specimens are rather bright and deep olivaceous testaceous grey. The species seems to lose easily its deeper color and most of my specimens are faded pale dusty testaceous. T. a. line even, distinct, nearly perpendicular, a little outwardly arcuate, followed by an outer dark shade, and with an inner quite pale and contrasting shade which seems to precede the line, but in reality in fresh specimens is seen to be the broad included shade of the t. a. line, since a very fine transverse line may be detected before it. Median shade line continued, undulated, linear. Orbicular a faint shaded point concolorous with the darker m. shade and lines. Reniform consisting of two black superposed sometimes connected points surrounded by a pale shade; in its shape the spot is constricted outwardly. T. p. line tolerably distinct, shortly and evenly waved, nearly perpendicular and not exerted, followed by a clear pale shade, which, in reality, is the included shade of the obsoletely geminate line. Inner portion of the subterminal space pale and contrasting with the wider dark olivaceous portion which is margined outwardly by the evident subterminal line. This latter is inwardly somewhat acutely projected opposite the cell, running outwardly again over median nervules, narrowly rivulous with a preceding pale shade. Terminal space clearer griseous without olivaceous cast and with an obliquely ascending series of interspaceal dark shade streaks to the apex; the apical streak alone usually evident, but sometimes these parallel interspaceal shades are perceptible against the dark olivaceous subterminal coloration. A very fine interspaceally lunulate subcontinuous black terminal line, continued on hind wings. Secondaries more smoky, concolorous, with median and subterminal lines continuous with t. p. and s. t. lines of primaries. Beneath the hind wings are basally pale, with distinct discal dot and approximate irregular dark median lines. Both wings have blackish wide borders cut by the pale subterminal shade. Primaries almost wholly dark with transverse lines only visible on costa. Body parts concolorous; legs dark outwardly; tarsi dotted. *Expanse* 23—25 m. m.

*Habitat*.—New York (Hastings, June 18th); Pennsylvania.

#### **TETANOLITA**, Grote.

A generic term proposed for a small blackish lustrous species resembling in appearance the smaller species of *Renia* (*centralis* and *restrictalis*), but differing in antennal and palpal structure. The disproportionately heavy labial palpi are like those in *Helia* and *Epizeuxis*, divaricate, arcuate, loosely held and closely scaled. Maxillae moderate. In the male the longer slender ciliate or finley bristled antennae are provided with a slight exterior tuft of scales at rather within basal third; in the female the shorter antennus is simple. The legs are finely scaled; in the male the fore tibiae are thickly scaled, strongly spurred on hind tibiae (in my only ♀ specimen the legs are defective). In shape the wings are as in *Renia* (*centralis*) and unlike *Epizeuxis* in the more produced apices. The ornamentation is like

*Renia* (*centralis* or *restricalis*), but the palpal and antennal structure at once separates the present form.

With but two specimens before me, in good condition, I do not wish to destroy my types for the sake of describing the neururation, which probably does not differ greatly from that of *Renia*.

***Tetanolita lixalis*, Grote.**—♂ ♀.—Silky blackish. Primaries with a faint purplish reflection. T. a. line indistinct, linear, darker than the ground color of the wing, medially with a rounded outward inclination. Reniform clear pale yellowish in both my specimens without included dots, indistinctly darker ringed, contrasting. T. p. line linear, dark, finely dentate, indicated on costa by pale scales, a little projected opposite the cell. Subterminal line distinctly indicated by small whitish lunulated included dots, a little outwardly projected over median nervules. A very fine terminal line; fringes concolorous, neatly interrupted with pale scales. The neat ornamentation may be clearly seen against the almost uniform blackish ground of the primaries with attention. Hind wings much paler, smoky-whitish, with two darker median lines, approximating towards internal margin, and faint discal mark; terminal line and fringes as on primaries. Beneath blackish, paling towards internal margins, with distinct discal marks and double neatly and minutely dentated transverse lines. Head and appendages, thorax and legs outwardly blackish, concolorous; abdomen paler. Tarsi dotted with pale scales. *Expanse* 20 m. m.

*Habitat*.—Alabama; Texas.

### MEGACHYTA, Grote.

The single species differs by the antennal structure, in which, as in other characters, it resembles *Chytolita*.

***Megachyta lituralis*, (Hübner).**—♂ ♀.—Pale brown, the transverse lines marked on costa and very wide apart. Basal half line indicated; two black liturate spots on costa at inception of t. a. and t. p. lines and a third at apices, the largest, without the inception of the pale subterminal. T. a. line black, very narrow and faint, even or nearly so, often obliterate. Reniform a narrow lunate black mark sometimes resolved into superposed dots. T. p. line black, guttiform, of the usual shape, resolved into nervular black dots connected very finely and faintly by a paler line. Subterminal line whitish, formed by whitish lunulations with blackish interior shade points, even on costa before the black apical shade. A fine disconnected terminal black line more continuous on the hind wings. Secondaries concolorous with two transverse slightly irregular divaricate parallel darker shaded lines with paler outer edging. Fringes concolorous. Beneath both wings with distinct common narrowly lunulated transverse marks and fine interrupted terminal line as on upper surface. *Expanse* 22 to 28 m. m.

*Habitat*.—Pennsylvania to Texas.

**EPIZEUXIS, Hübner.**

This generic term has priority over *Helia*, Guenée, and should be retained for our species of which I recognize, with certainty, two in the collection before me from the Atlantic District.

Mr. Walker's *Microphysa* ? *scriptipennis* is a re-description of *Helia americalis*, Guenée. The *Microphysa* ? *mollifera* of the British Museum Lists is also founded on a species of Epizeuxis, but my notes do not indicate the particular species; I think that *E. aemulalis* is thus re-described. To Mr. Walker is due the credit of having recognized Hübner's priority for the generic designation.

**Epizeuxis aemulalis, Hübner.**—♂ ♀.—Very variable in size and depth of color. Of a rather dark bluish testaceous grey. Transverse line narrow rivulous, black, continued. Reniform yellowish, with a faint interior blackish line, approximate to the diffuse black median shade. Orbicular minute, approximate to the t. a. line, pale. T. p. line succeeded on costa by a pale shade very irregularly and finely dentate. Subterminal line faint, atomical, pale with darker inner edging. A fine very black interrupted terminal line. Secondaries a little paler with three approximate transverse rivulous darker lines, the median usually most distinct, the outer sometimes very distinct, generally fainter than the others. Beneath with double, finely dentate transverse common lines, and two divaricate black discal marks on either wing. *Expanse* 25 to 30 m. m.

*Habitat.*—New York to Virginia.

*Epizeuxis aemulalis* is a very variable species in size and color, so that I do not feel authorized to describe as distinct a pale specimen in the collection which differs from all the rest in that the discal spots of the fore wings above are diffusely black.

**Epizeuxis americalis, Walker.**

*Helia americalis*, Guenée.

♂ ♀.—This brightest and most distinctly marked species of the genus resembles the European *E. calvarialis*, and seems to represent it in our fauna. It is paler, shorter winged and more distinctly lined, especially on hind wings. The transverse lines on the primaries differ in detail in the two species. In ours they are more rivulous or dentate, as in *E. aemulalis*. The median shade in *americalis* is less diffuse and differently situated, since it runs approximate to the reniform and joins the costa just within the inception of the t. p. line, whereas in *calvarialis* it crosses the median space centrally. Our species varies in size, but very slightly in ornamentation or color. *Expanse* 20 to 26 m. m.

*Habitat.*—Massachusetts to Georgia. The larva has been reported to me to occur commonly on Indian corn; Abbot figures it on an unpublished plate on phlox.



**HELIA**, Guenée.

The shortly and evenly pectinated ♂ antennæ, bristled in ♀, and the heavier and longer arcuate labial palpi, separate our single common species from the two referable to *Epizeuxis*. In a restricted sense I retain this generic term for *Helia phacalis*, *Guenée*.

***Helia phacalis***, *Guenée*.—♂ ♀.—Primaries silky blackish brown crossed by three undefined dentate pale yellowish lines. A pale lunate discal mark outwardly defined. Secondaries pale fuscous, with two diffuse darker shade bands. Beneath pale fuscous, with two common exterior shaded bands and dark discal marks. Legs outwardly brownish with pale dots. *Expanse* 26 to 34 m. m.

*Habitat*.—Eastern and Middle States. Of frequent occurrence and casually resembling *Aglossa*.

I have so far in these papers noticed many deltoïdous genera of North American Noctuidæ; I give here a list of species found in our Territory, omitting the unrecognized descriptions written by Mr. Walker.

The species hitherto referred to *Herminia* are susceptible of generic division. For *Herminia morbidalis* *Guenée*, the term *Chytolita* is proposed. The species differs from *Pechipogon Hübner*, the type of which is the European *P. barbalis*, in its neuronal characters as mentioned by *Guenée*, p. 56. For other species the term *Zanclognatha*, *Lederer*, is retained. It seems to me that this is founded on European types strictly congeneric with our American *Herminia cruralis* *Guenée*, and I use it in this sense here. *Herminia Latreille*, seems to be now used for the European *H. tentacularis*; since I regard *H. longilabris* as generically distinct I retain the latter as the type of *Philometra*. *Cleptomita* seems to fall in between *Zanclognatha* and *Philometra*; while, owing to defective material, I am yet prevented from announcing new allied North American forms.

I close the series of genera with *Tortricodes*, from the consideration that the cleft primary is a degradational character. In other respects the genus is allied to *Epizeuxis*. But it is as yet too early for me to offer argument upon the natural sequence of the genera.

Mr. J. A. Lintner, whose conscientious Entomological Reports merit approval, writes me that he has both sexes of *Tortricodes bifidalis* with cleft primaries. I then refer *T. indivisalis* to *Heterogramma*, *Guenée*, believing our species not to differ generically from the Brazilian species which M. *Guenée* uses for his type.

**CHYTOLITA**, Grote.  
*morbidalis*.

*Herminia morbid*. Guenée.

**P.TYOLITA**, Grote.  
*pedipilalis*.

*Herminia pedip*. Guenée.

**LITOGNATHA**, Grote (i. l.).  
*rubilifascia*, Grote (i. l.).  
*litophora*, Grote (i. l.).

**ZANCLOGNATHA**, Lederer.  
*laevigata*.

*Herminia laevig*. Grote.

*ochreipennis*.

*Herminia och*. Grote.

*cruralis*.

*Herminia crur*. Guenée.

*marcidilinea*.

*Herminia marcid*. Grote.

*obscuripennis*.

*Herminia obscur*. Grote.

**CLEPTOMITA**, Grote.  
*atrilinella*, Grote.

**PHILOMETRA**, Grote.  
*longilabris*, Grote.  
*serraticornis*, Grote.

**MEGACHYTA**, Grote.  
*lituralis*, Grote.

*Epizeuxis lituralis*, Hübner.

**PHALAEOSTOLA**, Grote.  
*larentioides*, Grote.  
*citima*, Grote.

**RIVULA**, Duponchel.  
*propinqualis*, Guenée.

**BLEPTINA**, Guenée.  
*caradrinalis*, Guenée.  
*inferior*, Grote.

**RENIA**, Guenée.  
*discoloralis*, Guenée.  
*Hypena fallacialis*, Walk.  
*brevirostralis*, Grote.  
*alutalis*, Grote.  
*plenilinealis*, Grote.

*larvalis*, Grote.  
*centralis*, Grote.  
*restrictalis*, Grote.

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*belfragei*, Grote.

**TETANOLITA**, Grote.  
*lialis*, Grote.

**HELIA**, Guenée.  
*phaealis*, Guenée.

**EPIZEUXIS**, Hübner.  
*aemulalis*, Hübner.  
*americalis*, Walker,  
*Helia americ*. Guenée.  
*Microphysa scriptipennis*, Walk.

**PANGRAPTA**, Hübner.  
*decoralis*, Hübner.  
*Hypena elegantalis*, Fitch.  
*Marmorinia geometroides*, Guenée.  
*Marmorinia epionoides*, Guenée.

**PHALAEOPHANA**, Grote.  
*rurigena*, Grote.

**PALTHIS**, Hübner.  
*angulalis*, Hübner.  
*asopialis*.  
*Clanyma asopialis*, Guenée.

**COLOBOCHYLA**, Hübner.  
*interpuncta*.  
*Madopa interp*. Grote.

**HYPENA**, Schrank.  
*citata*, Grote.  
*humuli*, Harris.  
*evanidalis*, Robinson.

**BOMOLOCHA**, Hübner.  
*manalis*.  
*Hypena manalis*, Walker.  
*baltimoralis*.  
*Hypena baltimoralis*, Guenée.  
*abalienalis*.  
*Hypena abalienalis*, Walker.  
*bijugalis*.  
*Hypena bijugalis*, Walker.  
*madefactalis*.  
*Hypena madefactalis*, Guenée.

**PLATHYPENA, Grote.****scabra.**♂ *Hyblaea scabra*, Fabr.♀ *Hypena erectalis*, Guenée.\*var. ♀ *Hyp. subrufalis*, Grote.**LOMANALTES, Grote. (i. l.).****laetulus, Grote (i. l.).****MACRHYPENA, Grote.****deceptalis.***Hypena deceptalis*, Walker.**profecta.***Hypena profecta*, Grote.**EUHYPENA, Grote.****toreuta.***Hypena toreuta*, Grote.**sordidula.***Hypen sordidula*, Grote.**HETEROGRAMMA, Guenée.****indivisalis.***Tortricodes indivisalis*, Grote.**TORTRICODES, Guenée.****bifidalis, Grote.**

\* Mr. Lintner has since informed me that by breeding he has discovered the fact that *erectalis* is the ♀ form of *scabra*. I have then been in error in my sexual determinations in these two species.

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**EXPLANATION OF PLATE I.**Fig. 87. *Hypena evanidalis*." 88. *Xanthoptera rosalba*." 89. *Xanthoptera coccineifascia*." 90. *Spargaloma serpunctata*." 91. *Renia brevirostralis*, ♀." 92. *Renia brevirostralis*, ♂." 93. *Bomolocha bijugalis*.Fig. 94. *Renia restrictalis*, ♀.

(This figure is not dark enough and gives an erroneous idea of the species.)

" 95. *Renia Belfragei*, ♂." 96. *Charadra propinquinza*.

